# DELTA 10 R ZOOM

**DELTA 10 R ZOOM RGBW FAR**
**(Cod.** 03.LDR004.TF**)**
• Electronic Power Supply • Motorized Zoom •FAR system
**DELTA 10 R ZOOM RGBW**
**(Cod.** 03.LDR004.T**)**
• Electronic Power Supply • Motorized Zoom

User's Manual Rel 1.0 **GB**

D.T.S. Illuminazione srl - ITALY
http://www.dts-lighting.it

DTS
The Lighting Company

Made in Italy

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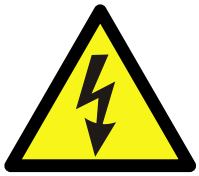
## 1- SYMBOLS

Graphic symbols used on this manual

THIS SYMBOL INDICATES A HOT SURFACE



THIS SYMBOL INDICATES ELECTRIC SHOCK RISK

THIS SYMBOL INDICATES GENERAL RISK

THIS SYMBOL MEANS "DO NOT PLACE THE UNIT ON INFLAMMABLE SURFACES"

THIS SYMBOL INDICATES THE MINIMUM DISTANCE TO BE KEPT BETWEEN THE DEVICE AND THE LIT OBJECT

## 2- GENERAL WARNING

Read the instruction contained in this user manual carefully, as they give important information regarding safety during installation , use and maintenance.
The device is not for domestic use and must be installed by a qualified electrician or experienced person.
Always disconnect the device from the mains before replacing the lamp.
The lamp must be replaced if it has been damaged or deformed by prolonged use or overheating.
The device must always be equipped with an efficient ground connection.

## 3- GENERAL WARRANTY CONDITIONS

The unit is guaranteed for 24 months from the date of purchase against manufacturing material defects.

## 4- TECHNICAL FEATURES

Robust and resilient, DELTA 10 R ZOOM is a new LED moving head designed for the road and ideal for rental applications that demand intense and nearly continuous usage.
DELTA 10 R ZOOM is the brightest LED colour changer in its category: 5.000 Lux at 5 m ( 15°).
In fact its light source is composed of 240 x LEDs (60 Red, 60 Green, 60 Blue, 60 White) with 19.500 total lumens.
The DELTA 10 R ZOOM features a motorized Zoom 15°- 40° with high efficiency optic system.
The LEDs even distribution pattern featuring the same quantity of red, green and blue LEDs guarantees high mixing quality for RGBW colours and a uniform projection on surfaces, no matter what colour is used.
DELTA 10 R ZOOM can generate 16 million colours; colour temperature can be varied over a linear range from 2800°K to 6500°K.
DELTA 10 R ZOOM offers an IP20 protection rating.
DELTA 10 R ZOOM has a full-range AC 90-260 V, 50-60 Hz power supply, and therefore ensures reliable operation even in the case of voltage drops.
DELTA 10 R ZOOM can be used without external consoles, in chains of colour changers including up to 32 units.
DELTA 10 R ZOOM offers a range of exclusive functions, including the possibility of memorizing a personalized white either from the menu or via DMX.
The white is recalled with the dedicated DMX "White" channel.
All functions of the internal DELTA 10 R ZOOM menu can be programmed and memorized in a sequence of events (including different luminosity settings, generation of 16 million different colours, special effects, etc.), which can be played back in a predetermined sequence.
The DELTA 10 R ZOOM FAR features also a Free Axis Rotation ("FAR") system.
The FAR allows limitless pan and tilt rotation: the DELTA head rotates freely on its axes, horizontally or vertically, without interruption, in either direction, never having to reverse motion.
The Delta 10 R ZOOM is also available with White+Amber leds (180 white + 60 amber).
On demand it is also available in RGBA version.

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### LED technology
240 LEDs (60 Red, 60 Green, 60 Blue, 60 White)
LEDs average lifespan: 100.000 hours
Total luminous flux 19.500 Lumens
RGBW colour generation (16 million colours)
Colour temperature variable on a linear range
(3.200°K÷6.500°K); no infrared / no ultraviolet emissions

### Optical units
Motorized Zoom 15°-40°

### User interface
OLED Colour display + 4 buttons;
Independent operation
Fully programmable via built-in user interface
Master or Slave capability (chains of up to 32 interconnected units)

## 4- TECHNICAL FEATURES

**Remote control**
Remotely controlled by cable or wireless (optional); USITT DMX 512 serial digital protocol

**DMX channels**
20 DMX channels

**Protection**
IP20 protection level

**Movements**
Horizontal/pan (540°) – vertical/tilt (270°)
Free Axis Rotation ("FAR") system; Safety-locking system

**Power supply**
Full range AC 90 260V 50 60Hz

**Power consumption**:
* 90 V – 5,3 A – 480 W * 120 V – 4 A – 480 W
* 230 V – 2,1 A – 480 W * 260 V – 1,85 A – 480 W

**Thermal Operating ambient temperature**
-10° / 40°

**Standard accessories**
"GQuick" clamps with fast-lock connection 1/4 turn

**Finishes**
Black colour; White

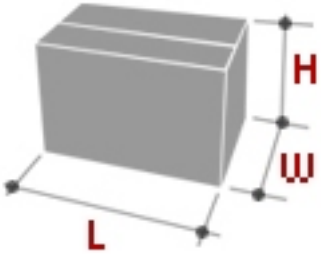
**Certification and Safety**
Certification CE;

**LED Class**
Class 2 LED product

**Dimensions**

Packaging Dimensions (LxWxH)
550 x 440 x 800 mm
Weight:
35 Kg

Unit Dimensions (LxWxH)
510x415x690mm
Weight:
28 Kg



## 5- ACCESSORIES

### As standard

•1 x POWERCONN male cable connector (cod. 0520P014)
•1 x XLR 5 Pins male cable connector (cod. 0508B028)
•1 x XLR 5 Pins female cable connector (cod. 0508B027)
•2 x "C" Clamp GQUICK with "Fast Lock" connection 1/4 turn (max. load. 80Kg) (cod. 0521A014)
• User's manual

### Optional (on request)

**Flight cases**

• Double Professional Flight case; compartment for accessories, swivel wheels, cover with hinges with-stay, dishes on cover for piling, 8 handles (2 eachside) (cod. 0521C032)

**Rain covers**

• Rain cover for XR base (top) (cod. 03.MA001)
• Rain cover for XR base (bottom) (cod. 03.MA002)

**Embedding flanges**

• Embedding flange for XR (no visible display) (cod. 03.MA006)
• Universal recessed support for XR (cod. 03.MA007)

**Wireless DMX receivers retrofits**

• Wireless DMX Receiver Card with INDOOR IP20 2dBi antenna included (cod. 0508A033)

**Clamps / safety wires**

• "C" Clamp G60 black (max. load 50Kg) (cod. 0521A004)
• "C" Clamp G60 chrome (max. load. 50Kg) (cod. 0521A004.20)
• "C" Clamp GQUICK with "Fast Lock" connection 1/4 turn (max. load. 80Kg) (cod. 0521A014)
• "C" Clamp G100 black / professional (max. load. 200Kg) (cod. 0521A015)
• Omega clamp with "Fast Lock" connection 1⁄4 turn 1 couple (2 pieces) (Cod. 02K00467)
• Safety wire (3mm x 60 cm), ring spring catch, max. capacity load 60Kg (cod. 0521A010)

# 6- IMPORTANT SAFETY INFORMATION

## 6.1 Fire prevention:

-Never locate the fixture on any flammable surface.
-Minimum distance from flammable materials: 1.5 MT.
-Minimum distance from the closest illuminable surface: 0,5 MT.

-Replace any blown or damaged fuses only with those of identical value. Refer to the wiring diagram if there is any doubt.
-Connect the projector to mains power via a thermal magnetic circuit breaker.

## 6.2 Prevention of electric shock:

-High voltage is present inside the unit. Unplug the unit prior to performing any function which involves touching the inside of the moving head.
-The level of technology inherent in the DELTA 10 R ZOOM requires the assistance of specialised personnel for all servicing. Please refer to an authorised DTS service centre.
-A good earth connection is essential for proper functioning of the projector.
-Never connect the unit without proper earth connection.
-The fixture should be located in places with a good air ventilation.

## 6.3 Safety:

-The projector should always be installed with bolts, clamps and other tools that are capable of supporting the weight of the unit.
-Always use a second safety cable to sustain the weight of the unit in case of the failure of the main fixing point.
-The external surface of the unit, at various points, may exceed 70°C. Never handle the unit until at least 10 minutes have elapsed since the projector was turned off.

-Never install the fixture in an enclosed area lacking sufficient air flow. The ambient temperature should not exceed 40°C.

## 6.4 Level of protection against the penetration of solid and liquid objects:

-The projector is classified as an ordinary appliance and its protection level against the penetration of solid and liquid objects is IP 20.
For outdoor use, D.T.S. reccomend the use of the dedicated raincovers:
• Rain cover for XR base (top) (cod. 03.MA001)
• Rain cover for XR base (bottom) (cod. 03.MA002)

## 7- VOLTAGE AND FREQUENCY

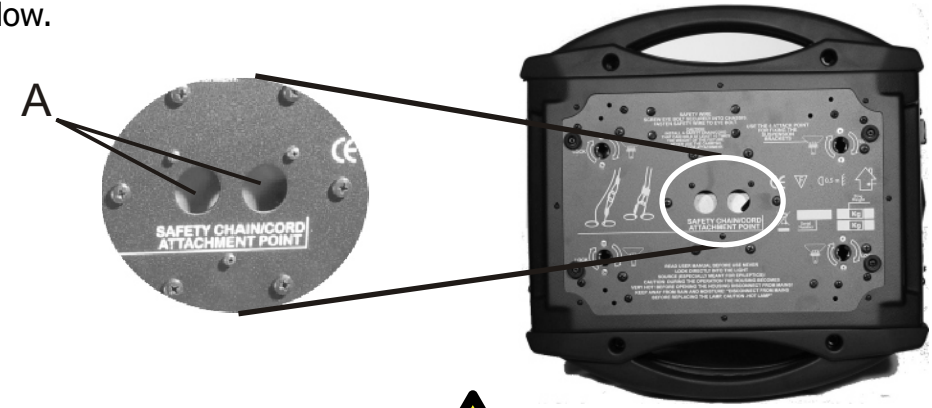
The DELTA 10 R ZOOM can operate at 90-260 VOLT  50 or 60 Hz.

## 8- INSTALLATION

DELTA 10 R ZOOM may be either floor or ceiling mounted.
For floor mounting installations, the DELTA 10 R ZOOM is supplied with four rubber mounting feet  on the base.
For ceiling mounted installations, we reccomend the use of appropriate clamps to fix the unit to the mounting surface.
The supporting structure from which the unit is hung should be capable of bearing the weight of the unit, as should any clamps used to hung it. The structure should also be sufficiently rigid so as not to move or shake whilst the DELTA 10 R ZOOM is moving.
Four 1/4 turn Fast Locks connections placed in the base of the units allow to hang the DELTA 10 R ZOOM by using the two Fast Lock 'C' clamps provided in the box.
.

### 8.1- Safety cable

We recommend the use of a  safety chain/cord connected to the DELTA 10 R ZOOM and to the suspension truss in order to avoid the fixture accidentally falling should the main fixing point fail. Make sure that the iron cable or chain can bear the weight of the entire unit.
You may attach the safety chain/cord to the two holes (A) located on the base of the fixture, as shown in the picture below.




### 8.2- Protection against liquids

The projector contains electric and electronic components which should under no circumstances come into contact with oil, water or any other liquid. The proper unit functioning would be compromised should this occur.

## 8.3- Movement

Unlimited Pan rotation; unlimited Tilt rotation (DELTA 10 R ZOOM F.A.R.)
Pan 540° (3,9 sec.), Tilt 270° (2,6 sec.) (DELTA 10 R ZOOM)

**Free Axis Rotation ("F.A.R.")**

**No Free Axis Rotation ("F.A.R.")**

WARNING
Do not place any object in the path of the projector's movement

## 8.4- Risk of fire

Each fixture produces heat and must be installed in a well-ventilated place. The minimum recommended distance from flammable material is 1,5 MT.

Minimum distance from the object being illuminated is 0,5 MT. 0,5M

## 8.5- Forced ventilation

You will note, on inspection, that the unit features various air inlets and cooling fans located on the head of the fixture. These should, under no circumstances, be blocked or obstructed whilst the projector is in operation.
Doing so could cause the fixture to seriously overheat thereby compromising its proper operation.

## 8.6- Ambient temperature

The projector should never be installed in places that lack a constant air flow. The ambient temperature should NOT exceed 40°C.

## 9- MAINS CONNECTION

DELTA 10 R ZOOM operate at 90-260 VOLT 50-60 Hz.
Prior to connecting the unit to your mains supply,
ensure that the model in your possession correctly matches
the mains supply available. For connection purposes,
ensure that your plug is capable of supporting 5 amps at 230V,
Or 10 amps at 100-120 V
Strict adherence to regulatory norms is strongly recommended.

Mains
90-260V AC 50 / 60Hz

## 9.1- Protection

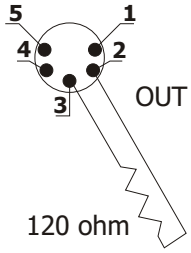
The use of a thermal magnetic circuit breaker is recommended for each DELTA 10 R ZOOM.
A good earth connection is essential for the correct operation of the projector.

# 10- DMX SIGNAL CONNECTION

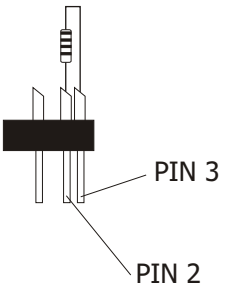
The unit operates using the digital DMX 512 (1990) signal. Connection between the mixer and the projector or between projectors must be carried out using a two pair screened ø 0.5 mm cable and a XLR 5 or 3 pins connector. Ensure that the conductors do not touch each other. Do not connect the cable ground to the XLR chassy
The plug housing must be isolated. Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first projector to the DMX IN plug of the second one.
This way, all the projectors are cascade connected.
NB. If the display showing the DMX address flashes, then one of the following errors has occurred:

- DMX signal not present
- DMX address not valid
- DMX reception problem

For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.
The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistor
Between pin 2 and 3.
The DMX terminator must be plugged into the last unit (DMX out panel connector) of the DMX line.




PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XRL CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE



## 10.1-DMX Addresses

DELTA 10 R ZOOM F.A.R. and DELTA 10 R ZOOM, can be controlled with 20 DMX channels.

In order to use the unit in 20 channels, set the following addresses on the mixer:

Projector 1 A001
Projector 2 A021 If you want to select the next projector, just add "20"

Projector 3 A041
….. A….
projector 6 A101

## 10.2-Selecting the DMX address

1) Press the UP-DOWN key until you reach the required DMX channel. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now setted to the new DMX address.
TRICKS:
if you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

## 11 FIRMWARE UPDATING

Warning:
This procedure require a base knolewge of computer applications and Windows Hyperterminal program. **Please refer to an authorised DTS service centre.**

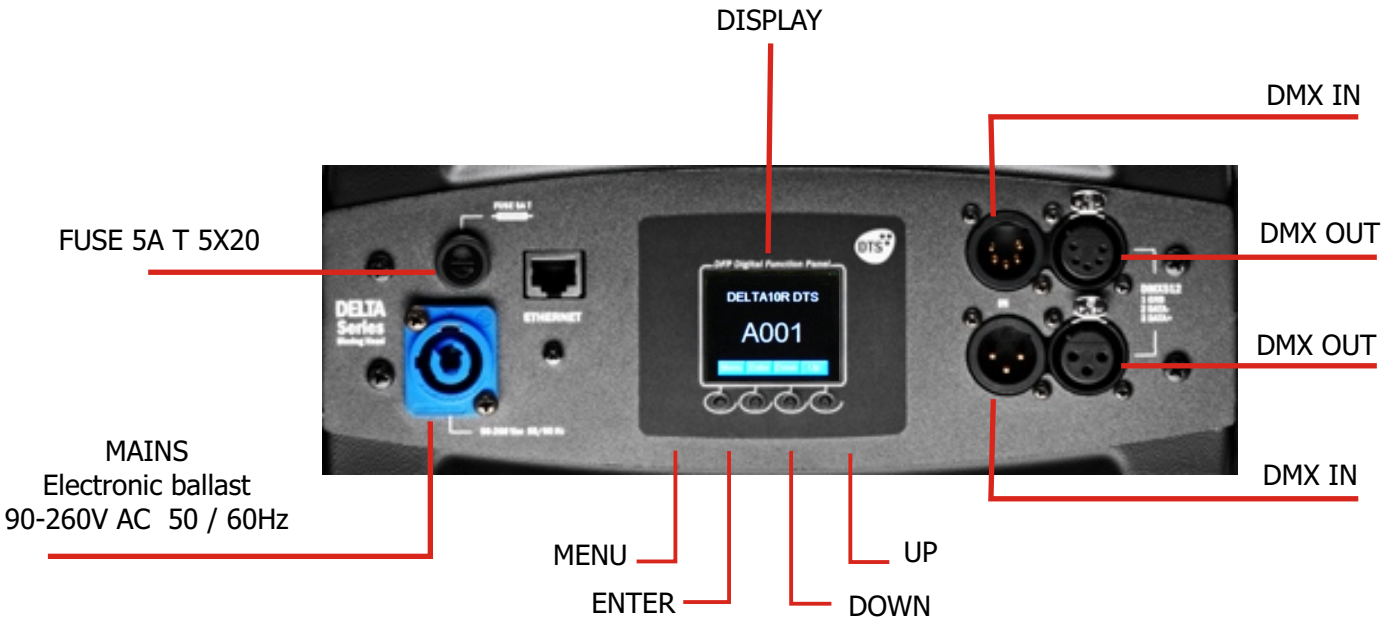
To update the software version of the DELTA 10 R ZOOM you need:
D.T.S. RED BOX interface (D.T.S. Code: 03.LA.008).
USB-DMX Drivers for the D.T.S. RED BOX interface .
(The drivers and the installation procedure are available in our web site www.dts-lighting.it)

'Updating the software version'
Please follow the procedure below to perform the update:

1. Install the D.T.S. RED BOX USB-DMX driver on the PC you will use to update the unit software.
2. Connect the D.T.S. RED BOX interface to the PC by using a USB cable.
3. Connect the D.T.S. RED BOX interface to the fixture by using a DMX cable.
4. Download the new software version into the unit by using Windows Hyperterminal program.

It will be possible to download the software from the reserved area of D.T.S. web site:
Www.dts-lighting.it.

# 12- DISPLAY FUNCTIONS




## DISPLAY FUNCTIONS

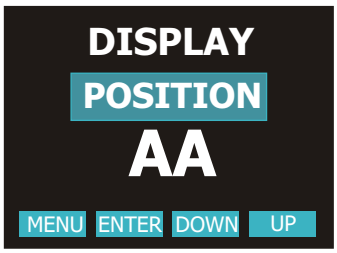
The DELTA 10 R ZOOM display panel shows all the available functions . Using these functions, it is possible to change some of the parameters and add some functions. Changing the DTS setting can vary the functions of the unit so that it does not respond to the DMX 512 used to control it. Carefully follow the instructions below before carrying out any variations or selections.
NOTE: the symbol ☞ shows which key has to be pushed to obtain the desired function.

☞ Menu ☞ Up-Down Display ☞ ENTER ☞ Up-Down

DISPLAY POSITION / STAND BY

Display Position:
Reverses display's reading depending on the mounting position
(On the ground or suspended).

Display Standby:
To turn off the display (after 5 seconds)
Or leave it always on.




Display Position ☞ ENTER
ON THE GROUND (Default)
SUSPENDED

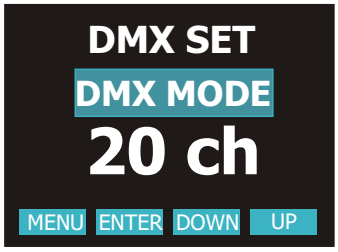
Display Standby ☞ ENTER
OFF = Display Standby disabled (Default)
ON = Display goes OFF after 5 seconds

# 12- DISPLAY FUNCTIONS

Menu Up-Down DMX Set ENTER Up-Down

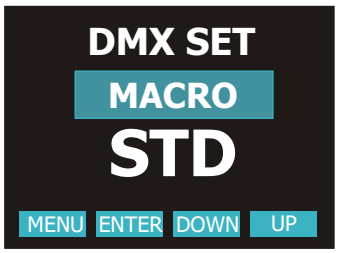
DMX MODE / MACRO
DMX Mode
To select DMX mode : 20 ch (default) or 16 DMX channels (reserved for future use).

Macro
Macro Function, enable channel mapping macro rainbow effects




ENTER

DMX mode
20 channels (Default)
16 channels (reserved for future use)




MACRO
Standard mode enabled (Default)
Extended mode enabled: Rainbow effects on MACRO channel

---

Menu Up-Down LED ENTER Up-Down

RGBA MINIMUM VALUES
This menu allow to select the minimum levels for Red, Green, Blue and Amber/White

RGBA MAXIMUM VALUES
This menu allow to select the maximum levels for Red, Green, Blue and Amber/White

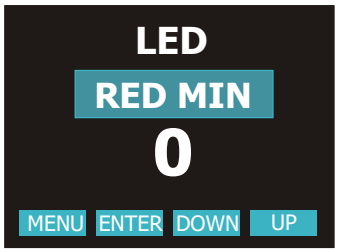
These settings have priority on Master Dimmer (DMX channel 9)

SMOOTH VALUE
This menu allow to select the value of the delay ( in millisecons) for RGBA and Dimmer channels reaction to DMX or Program variation.
Off = 25 ms delay (Fast response)
20 = 250 ms delay (Slow response)

GAMMA CORRECTION
This menu allow to select between Linear current output or Quadratic current output for LEDs
Default = Linear

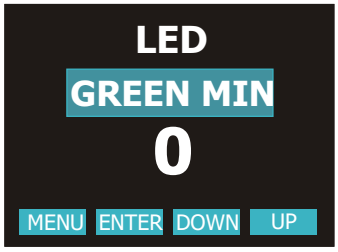
OUTPUT FREQUENCY
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings

BOOST DRIVING
This menu allow to increase the LED's current from 350mA to 500 mA

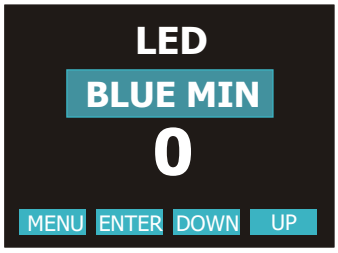



ENTER

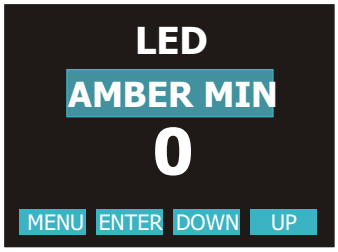
RED Min default =0
RED Max default = 255



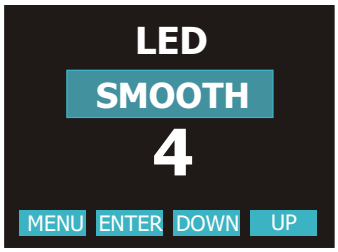

BLUE Min default =0
BLUE Max default = 255




GREEN Min default =0
GREEN Max default = 255




AMBER Min default =0
AMBER Max default = 255




SMOOTH
Range = Off - 20
Default = 4

# 12- DISPLAY FUNCTIONS

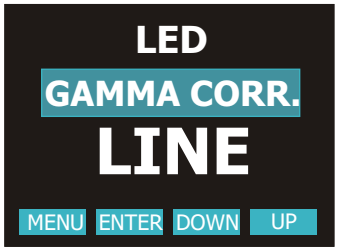
Menu Up-Down LED

GAMMA CORRECTION
This menu allow to select between Linear current output or Quadratic current output for LEDs
Default = Linear

OUTPUT FREQUENCY
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings

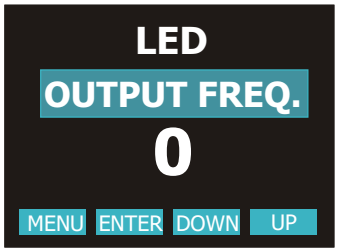
BOOST DRIVING
This menu allow to increase the LED's current from 350mA to 500 mA

ENTER Up-Down

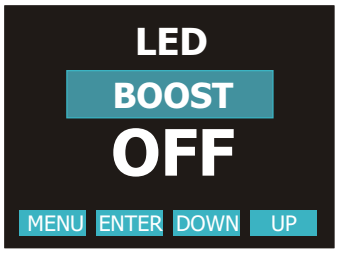



GAMMA CORRECTION
Linear = Linear courrent output
Quadratic = Linear light output

ENTER




OUTPUT FREQUENCY
Range = 610 Hz -10 KHz
Default = 610 Hz




BOOST
Whit BOOST active,the LED's current is set to 500mA (30%more gain).
Default = Disable

---

Menu Up-Down AUTO

AUTOMATIC MODE
Page under construction

ENTER Up-Down

AUTOMATIC MODE
Page under construction

---

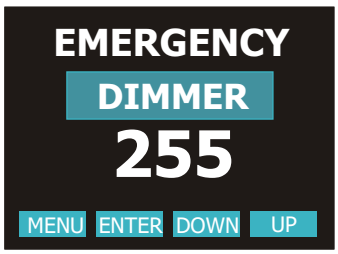
Menu Up-Down AUTO

EMERGENCY
Emergency operating mode.
By setting Emergency mode, it will be possible to select one of the 16 preprogrammed WHITE cues that will then ran if DMX signal is missing or not available.
Usefull for Emergency EXIT ilumination on public areas.

ENTER Up-Down

EMERGENCY
Default = OFF

WHITE 1-16
Default = WHITE 1

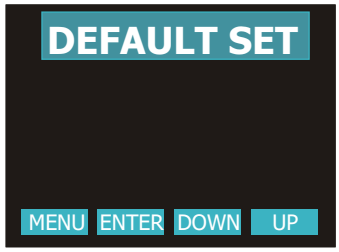


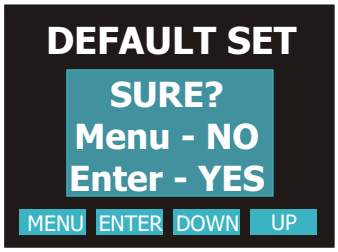

DIMMER
Default = 255

# 12- DISPLAY FUNCTIONS

Menu Up-Down DEFAULT SET ENTER Up-Down ENTER

DEFAULT SETTINGS
To restore default settings

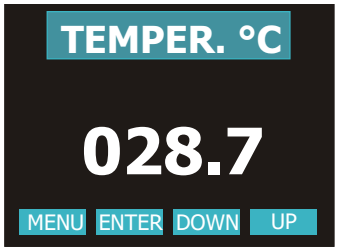



---

Menu Up-Down TEMPER. °C ENTER

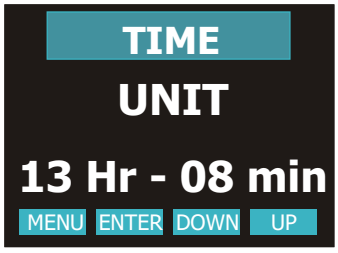
TEMPERATURE
Unit temperature

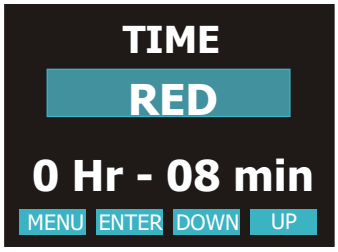


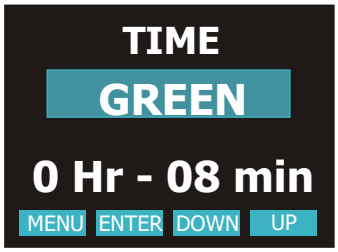

---

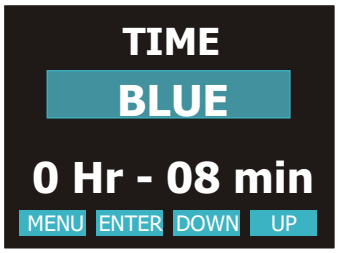
Menu Up-Down TIME ENTER Up-Down ENTER

LIFE TIME
This menu show the total UNIT life time
and the RGBA life time



# 12- DISPLAY FUNCTIONS

Menu Up-Down SYSTEM ENTER Up-Down

PAN INVERTION / TILT INVERTION / PAN-TILT SPEED / FAN THRESHOLD 0% / FAN THRESHOLD 100% / MOTORS FIRMWARE UPGRADE.

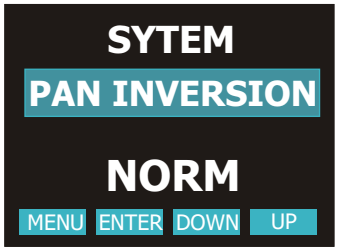
PAN INVERTION
This menu allows to set the Pan movement.
Normal or Reversed

TILT INVERTION
This menu allows to set the Pan movement.
Normal or Reversed

PAN TILT SPEED
Pan Tilt Speed control (1-4)

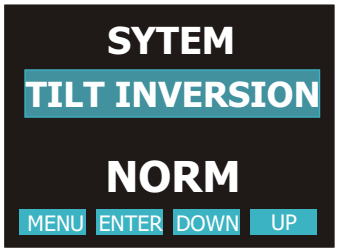
FAN THRESHOLD 0% - FAN THRESHOLD 100%
This menu' allow to select the Threshold for Fan rotation (menu under contruction)

MOTORS FIRMWARE UPGRADE
This menu' allow to upgrade the firmware into ZOOM and PAn&TIlt stepper motors circuit boards

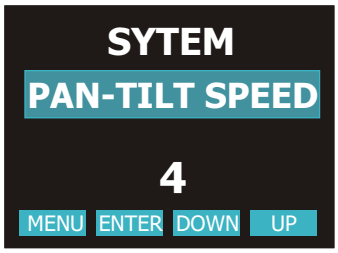



PAN INVERTION
Default = NORM

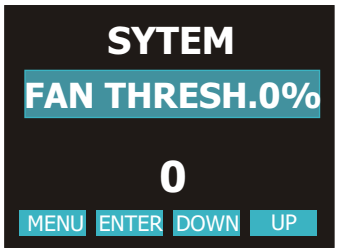
ENTER



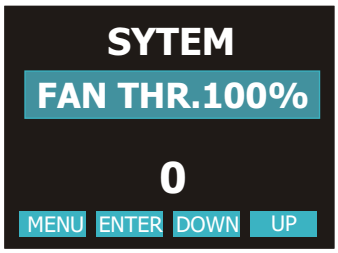

TILT INVERTION
Default = NORM



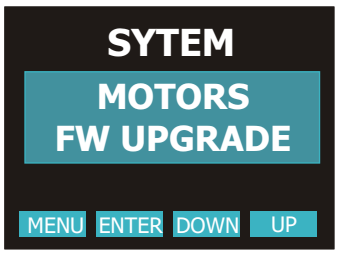

PAN TILT SPEED CONTROL
Default = 4




FAN THRESHOLD 0%
Menu under construction




FAN THRESHOLD 100%
Menu under construction



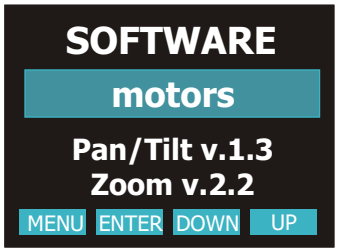

MOTORS FIRMWARE UPGRADE
ZOOM and PAn&Tilt stepper motors circuit boards firmware upgrade

# 12- DISPLAY FUNCTIONS

Menu Up-Down SOFTWARE ENTER Up-Down

SOFTWARE
LED circuit board software, MOTORS
circuit boards software (Pan&Tilt - Zoom)

LED CIRCUIT BOARD SOFTWARE ENTER




MOTORS CIRCUIT BOARDS
SOFTWARE
PAN&TILT - ZOOM

# 13- PERIODIC CLEANING

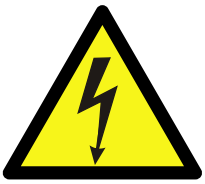
## Front lenses Glass

The dust can reduce the luminous output substantially. Regularly clean the front lenses glass using a soft cotton cloth, dampened with a specialist glasses cleaning solution.

## Fans and air passages

The fans and air passages must be cleaned approximately every 6 weeks. This periodic cleaning will depend of course, on the conditions in which the projector is operating. Suitable instruments for performing this type of maintenance are a brush and a common vacuum cleaner or an air compressor. If necessary, clean the fans and air passages more frequently.

# 14- PERIODIC CONTROLS



## Mechanical parts

Periodically check all mechanical parts and the gaskets, replacing them if necessary.

## Electrical components

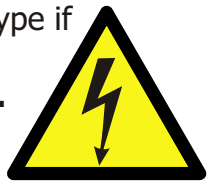
Check all electrical components for correct earthing and proper attachment of all connectors, refastening if necessary.

**Attention: Disconnect mains power prior to removing the projector housing.**

## Fuse replacement

Locate the fuse, which protect the electronics, in the base of the DELTA 10 R ZOOM
Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type if necessary.

**Attention: Disconnect mains power prior to removing the projector housing.**



# 15- DMX PROTOCOL

DELTA 10 R ZOOM F.A.R. • F.A.R. system (free axis rotation)
DELTA 10 R ZOOM (no F.A.R. system)

**20 CHANNELS MODE (DEFAULT)**

**1 PAN msb 540°**
**2 PAN lsb**
**3 TILT msb 270°**
**4 TILT lsb**
**5 SPEED MOVEMENT**
**6 PAN FAR** (active only for DELTA 10 R ZOOM F.A.R.; No Function for DELTA 10 R ZOOM)
**7 TILT FAR** (active only for DELTA 10 R ZOOM F.A.R.; No Function for DELTA 10 R ZOOM)
**8 SHUTTER**
**9 DIMMER**
**10 RED**
**11 GREEN**
**12 BLUE**
**13 AMBER \ WHITE**
**14 WHITE PREPROGRAMMED**
**15 CTC**
**16 MACRO**
**17 FUNCTION**
**18 ZOOM**
**19 SPEED ZOOM**
**20 RESET**

| | | |
|---|---|---|
| DMX CHANNEL | **1** | Parameter: **PAN msb** |

| | | |
|---|---|---|
| DMX CHANNEL | **2** | Parameter: **PAN lsb** |

| | | |
|---|---|---|
| DMX CHANNEL | **3** | Parameter: **TILT msb** |

| | | |
|---|---|---|
| DMX CHANNEL | **4** | Parameter: **TILT lsb** |

| | | |
|---|---|---|
| DMX CHANNEL | **5** | Parameter: **SPEED MOVEMENT** |

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-10** | | | | | **Standard** |
| **11-25** | | | | | **Fast movement** |
| **26-127** | | | | | **Vector mode from fast to slow** |
| **128-247** | | | | | **Variable time reaction to DMX signal ( fast to slow)** |
| **248-255** | | | | | **Slow reaction time to dmx signal** |

| DMX CHANNEL | 6 | Parameter: **PAN FAR** |
|---|---|---|

**(active only for DELTA 10 R ZOOM F.A.R.; No Function for DELTA 10 R ZOOM)**

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **000-010** | | | | | **Position mode 540° (standard path)** |
| **011-020** | | | | | **Position mode 360° ( 1 turn)** |
| **021-030** | | | | | **Position mode 720° ( 2 turns)** |
| **031-040** | | | | | **Position mode 1080° ( 3 turns)** |
| **041-050** | | | | | **Position mode 1440° ( 4 turns)** |
| **051-060** | | | | | **Position mode 1800° ( 5 turns)** |
| **061-070** | | | | | **Position mode 2160° ( 6 turns)** |
| **071-080** | | | | | **Position mode 2520° ( 7 turns)** |
| **081-090** | | | | | **Position mode 2880° ( 8 turns)** |
| **091-100** | | | | | **Position mode 3240° ( 9 turns)** |
| **101-110** | | | | | **Position mode 3600° (10 turns)** |
| **111-120** | | | | | **Position mode 360° smart path** |
| **121-182** | | | | | **Forward spin rotation speed from max to min** |
| **183-193** | | | | | **Stop** |
| **194-255** | | | | | **Reverse spin rotation speed from min to max** |

| DMX CHANNEL | 7 | Parameter: **TILT FAR** |
|---|---|---|

**(active only for DELTA 10 R ZOOM F.A.R.; No Function for DELTA 10 R ZOOM)**

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **000-010** | | | | | **Position mode 270° (standard path)** |
| **011-020** | | | | | **Position mode 360° ( 1 turn)** |
| **021-030** | | | | | **Position mode 720° ( 2 turns)** |
| **031-040** | | | | | **Position mode 1080° ( 3 turns)** |
| **041-050** | | | | | **Position mode 1440° ( 4 turns)** |
| **051-060** | | | | | **Position mode 1800° ( 5 turns)** |
| **061-070** | | | | | **Position mode 2160° ( 6 turns)** |
| **071-080** | | | | | **Position mode 2520° ( 7 turns)** |
| **081-090** | | | | | **Position mode 2880° ( 8 turns)** |
| **091-100** | | | | | **Position mode 3240° ( 9 turns)** |
| **101-110** | | | | | **Position mode 3600° (10 turns)** |
| **111-120** | | | | | **Position mode 360° smart path** |
| **121-182** | | | | | **Forward spin rotation speed from max to min** |
| **183-193** | | | | | **Stop** |
| **194-255** | | | | | **Reverse spin rotation speed from min to max** |

| DMX CHANNEL | 8 | Parameter: **SHUTTER** |
|---|---|---|

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-9** | | | | | **Black - out** |
| **10-19** | | | | | **Open** |
| **20-29** | | | | | **Black-out** |
| **30-119** | | | | | **Strobe( from 3.27 s to 30 ms)** |
| **120-149** | | | | | **Pulse up (from 42.6s to120ms)** |
| **150-179** | | | | | **Pulse down(from 42.6s to120ms)** |
| **180-204** | **Random strobe (Dimmer, Red, Green, Blue, Amber channels active)** | | | | |
| **205-229** | **Full independent Random Strobe (Dimmer, Red, Green, Blue, Amber channels disabled)** | | | | |
| **230-255** | | | | | **Open** |

| DMX CHANNEL | 9 | Parameter: **DIMMER** |
|---|---|---|

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-7** | | | | | **Black-out** |
| **8-255** | | | | | **Proportional dimmer** |

| DMX CHANNEL | 10 | Parameter: **RED** |
|---|---|---|

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-255** | | | | | **Proportional colour** |

| DMX CHANNEL | 11 | Parameter: **GREEN** |
|---|---|---|

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-255** | | | | | **Proportional colour** |

| DMX CHANNEL | 12 | Parameter: **BLUE** |
|---|---|---|

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-255** | | | | | **Proportional colour** |

| DMX CHANNEL | 13 | Parameter:**AMBER \ WHITE 5600° K** |
|---|---|---|

| DMX range Value | Mid point DMX value | Move Range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-255** | | | | | **Proportional colour** |

| DMX CHANNEL | 14 | Parameter: **WHITE (Pre-programmed White at diff. color temperature)** |
|---|---|---|

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-55** | **23** | | | | **No Function** |
| **56-105** | **80** | | | | **Full (Red-Green-Blue at Full)** |
| **106-155** | **130** | | | | **White DTS** |
| **156-205** | **180** | | | | **Custom White Create (RGB levels selectable by DMX)** |
| **206-255** | **230** | | | | **White CTC (Channel 15 CTC enabled)** |

| DMX CHANNEL | 15 | Parameter: **CTC (Color temperature correction)** |
|---|---|---|

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|

**IF CHANNEL 14 (White) = WHITE CTC (Dmx range value 206 - 255)**

| | |
|---|---|
| **0-255** | **Linear control temperature correction: 0 = 2000°K / 255 = 7200°K** |

| DMX CHANNEL | 16 | Parameter: **COLOUR MACROS** |
|---|---|---|

**IF:** MENU Up-Down DMX SET ENTER Up-Down MACRO ENTER Up-Down STD ENTER

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-14** | | | | | **No Function** |
| **15-29** | | | | | **Macro 1** |
| **30-44** | | | | | **Macro 2** |
| **45-59** | | | | | **Macro 3** |
| **60-74** | | | | | **Macro 4** |
| **75-89** | | | | | **Macro 5** |
| **90-104** | | | | | **Macro 6** |
| **105-119** | | | | | **Macro 7** |
| **120-134** | | | | | **Macro 8** |
| **135-149** | | | | | **Macro 9** |
| **150-164** | | | | | **Macro 10** |
| **165-179** | | | | | **Macro 11** |
| **180-194** | | | | | **Macro 12** |
| **195-209** | | | | | **Macro 13** |
| **210-225** | | | | | **Macro 14** |
| **226-239** | | | | | **Macro 15** |
| **240-255** | | | | | **Macro 16** |

| DMX CHANNEL | 16 | Parameter: **COLOUR MACROS** |
|---|---|---|

**IF:** MENU Up-Down DMX SET ENTER Up-Down MACRO ENTER Up-Down EXT ENTER

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-14** | | | | | **No Function** |
| **15-22** | | | | | **Macro 1** |
| **23-30** | | | | | **Macro 2** |
| **31-38** | | | | | **Macro 3** |
| **39-46** | | | | | **Macro 4** |
| **47-54** | | | | | **Macro 5** |
| **55-62** | | | | | **Macro 6** |
| **63-70** | | | | | **Macro 7** |
| **71-78** | | | | | **Macro 8** |
| **79-86** | | | | | **Macro 9** |
| **87-94** | | | | | **Macro 10** |
| **95-102** | | | | | **Macro 11** |
| **103-110** | | | | | **Macro 12** |
| **111-118** | | | | | **Macro 13** |
| **119-126** | | | | | **Macro 14** |
| **127-134** | | | | | **Macro 15** |
| **135-142** | | | | | **Macro 16** |

| DMX CHANNEL | 16 | Parameter: **COLOUR MACROS** |
|---|---|---|

**IF:** ☞ MENU ☞ DMX SET ☞ ENTER ☞ MACRO ☞ ☞ EXT ☞ ENTER

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **143-150** | | | | | **Rainbow Speed 1 (1 Sec.)** |
| **151-158** | | | | | **Rainbow Speed 2 (5 Sec.)** |
| **159-166** | | | | | **Rainbow Speed 3 (10 Sec.)** |
| **167-174** | | | | | **Rainbow Speed 4 (20 Sec.)** |
| **175-182** | | | | | **Rainbow Speed 5 (30 Sec.)** |
| **183-190** | | | | | **Rainbow Speed 6 (60 Sec.)** |
| **191-198** | | | | | **Rainbow Speed 7 (120 Sec.)** |
| **199-206** | | | | | **Rainbow Speed 8 (180 Sec.)** |
| **207-214** | | | | | **Random Speed 1 (0.5 sec.)** |
| **215-222** | | | | | **Random Speed 2 (1 Sec.)** |
| **223-230** | | | | | **Random Speed 3 (2 Sec.)** |
| **231-238** | | | | | **Random Speed 4 (5 Sec.)** |
| **239-246** | | | | | **Random Speed 5 (10 Sec.)** |
| **247-255** | | | | | **Random Speed 6 (30 Sec.)** |

| DMX CHANNEL | 17 | Parameter: **FUNCTIONS (Recall,Create and Store the Custom white)** |
|---|---|---|

**IF CHANNEL 14 WHITE = Dmx range value 156 - 205**

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-79** | | | | | **Custom White Recall** |
| **80-160** | | | | | **Custom White Create (Enable CH 10/11/12/13 for Custom white Creation)** |
| **161-255** | | | | | **Custom White Store (Store the Custom White created )** |

| DMX CHANNEL | 18 | Parameter:**ZOOM** |
|---|---|---|

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-255** | | | | **Linear ZOOM from Narrow to Wide** | |

| DMX CHANNEL | 19 | Parameter:**ZOOM SPEED** |
|---|---|---|

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-255** | | | | | **Proportional ZOOM SPEED** |

| DMX CHANNEL | **20** | Parameter: **RESET** |
|---|---|---|

| DMX range Value | Mid point DMX value | Move range (degrees) | Mode | Option | Function |
|---|---|---|---|---|---|
| **0-239** | | | | | **No Effect** |
| **240-255** | | | | **Total Reset (activation after 3 sec.)** | |

# 15- DMX PROTOCOL

**16 CHANNELS MODE (reserved for future use)**

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The Lighting Company

**ISO 9001:2000**

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is certified to the
ISO 9001:2000 standard

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D.T.S. products are designed
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